SAFETY DATA SHEET
according to the Global Harmonized System (and with all of the information required by the CPR)

Revision Date 01/26/2015  Version 1.3

SECTION 1. Identification
Product identifier

Product number  108525
Product name Rhodium standard 10 mg/l (Rhodium(III) nitrate in nitric acid 0.5 mol/l) internal standard for ICP-MS

Relevant identified uses of the substance or mixture and uses advised against
Identified uses Reagent for analysis

Details of the supplier of the safety data sheet
Company EMD Millipore Corporation | 290 Concord Road, Billerica, MA 01821, United States of America | General Inquiries: +1-978-715-4321 |
Monday to Friday, 9:00 AM to 4:00 PM Eastern Time (GMT-5)

Emergency telephone 613-996-6666 CANUTEC (Canada)
+1-703-527-3887 CHEMTREC (International)
24 Hours/day; 7 Days/week

SECTION 2. Hazards identification
GHS Classification
Corrosive to Metals, Category 1, H290
Skin irritation, Category 2, H315
Eye irritation, Category 2, H319
For the full text of the H-Statements mentioned in this Section, see Section 16.

GHS-Labeling
Hazard pictograms

Signal Word
Warning

Hazard Statements
H290 May be corrosive to metals.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
Precautionary Statements
P302 + P352  IF ON SKIN: Wash with plenty of soap and water.
P305 + P351 + P338  IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Other hazards
None known.

SECTION 3. Composition/information on ingredients
Chemical nature  Aqueous solution

Hazardous ingredients
Chemical Name (Concentration)
CAS-No.
nitric acid (>= 1% - < 5%)
7697-37-2
Exact percentages are being withheld as a trade secret.

SECTION 4. First aid measures
Description of first-aid measures
Inhalation
After inhalation: fresh air.

Skin contact
After skin contact: wash off with plenty of water. Remove contaminated clothing.

Eye contact
After eye contact: rinse out with plenty of water. Call in ophthalmologist.

Ingestion
After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed
irritant effects, Cough, Shortness of breath
The following applies to nitrites/nitrates in general: methemoglobinemia after the uptake of large quantities.

Indication of any immediate medical attention and special treatment needed
No information available.

SECTION 5. Fire-fighting measures
Extinguishing media
Suitable extinguishing media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
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**Unsuitable extinguishing media**
For this substance/mixture no limitations of extinguishing agents are given.

**Special hazards arising from the substance or mixture**
- Not combustible.
- Ambient fire may liberate hazardous vapors.

**Advice for firefighters**
*Special protective equipment for fire-fighters*
- Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

*Further information*
- Prevent fire extinguishing water from contaminating surface water or the ground water system.

**SECTION  6. Accidental release measures**

**Personal precautions, protective equipment and emergency procedures**
- Advice for non-emergency personnel: Avoid substance contact. Do not breathe vapors, aerosols. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.
- Advice for emergency responders: Protective equipment see section 8.

**Environmental precautions**
- Do not empty into drains.

**Methods and materials for containment and cleaning up**
- Cover drains. Collect, bind, and pump off spills.
- Observe possible material restrictions (see sections 7 and 10).
- Take up with liquid-absorbent and neutralizing material (e.g. Chemizorb® H⁺, Art. No. 101595).
- Dispose of properly. Clean up affected area.

**SECTION  7. Handling and storage**

**Precautions for safe handling**
- Observe label precautions.

**Conditions for safe storage, including any incompatibilities**
- Tightly closed.
- Store at +15°C to +25°C (+59°F to +77°F).
SECTION 8. Exposure controls/personal protection

Exposure limit(s)

**Ingredients**

<table>
<thead>
<tr>
<th>Basis</th>
<th>Value</th>
<th>Threshold limits</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>nitric acid 7697-37-2</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAD AB OEL</td>
<td>Time Weighted Average (TWA): 2 ppm</td>
<td>5.2 mg/m³</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Short Term Exposure Limit (STEL): 4 ppm</td>
<td>10 mg/m³</td>
<td></td>
</tr>
<tr>
<td>CAD BC OEL</td>
<td>Short Term Exposure Limit (STEL): 4 ppm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAD MB OEL</td>
<td>Time Weighted Average (TWA): 2 ppm</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Short Term Exposure Limit (STEL): 4 ppm</td>
<td>10 mg/m³</td>
<td></td>
</tr>
<tr>
<td>CAD ON OEL</td>
<td>Time Weighted Average (TWA): 2 ppm</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Short Term Exposure Limit (STEL): 4 ppm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OEL (QUE)</td>
<td>Time Weighted Average (TWA): 2 ppm</td>
<td>5.2 mg/m³</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Short Term Exposure Limit (STEL): 4 ppm</td>
<td>10 mg/m³</td>
<td></td>
</tr>
</tbody>
</table>

Engineering measures
Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

Individual protection measures
Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled. The chemical resistance of the protective equipment should be inquired at the respective supplier.

Hygiene measures
Immediately change contaminated clothing. Apply skin-protective barrier cream. Wash hands and face after working with substance.

Eye/face protection
Safety glasses

Hand protection
Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Other protective equipment:
protective clothing

Respiratory protection
required when vapors/aerosols are generated.
Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

### SECTION 9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>liquid</td>
</tr>
<tr>
<td>Color</td>
<td>colorless</td>
</tr>
<tr>
<td>Odor</td>
<td>odorless</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>Not applicable</td>
</tr>
<tr>
<td>pH</td>
<td>ca. 1 at 68 °F ( 20 °C)</td>
</tr>
<tr>
<td>Melting point</td>
<td>No information available.</td>
</tr>
<tr>
<td>Boiling point</td>
<td>No information available.</td>
</tr>
<tr>
<td>Flash point</td>
<td>No information available.</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No information available.</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No information available.</td>
</tr>
<tr>
<td>Lower explosion limit</td>
<td>No information available.</td>
</tr>
<tr>
<td>Upper explosion limit</td>
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</tr>
<tr>
<td>Vapor pressure</td>
<td>No information available.</td>
</tr>
<tr>
<td>Relative vapor density</td>
<td>No information available.</td>
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<tr>
<td>Density</td>
<td>1.02 g/cm³ at 68 °F ( 20 °C)</td>
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<tr>
<td>Relative density</td>
<td>No information available.</td>
</tr>
<tr>
<td>Water solubility</td>
<td>soluble</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>No information available.</td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>No information available.</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No information available.</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No information available.</td>
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Explosive properties  Not classified as explosive.
Oxidizing properties  none
Corrosion  May be corrosive to metals.

SECTION 10. Stability and reactivity

Reactivity
See below

Chemical stability
The product is chemically stable under standard ambient conditions (room temperature).

Possibility of hazardous reactions
increased reactivity with:
oxidizable substances, organic solvent, Metals, metal alloys, Alkali metals, Alkaline earth metals, Ammonia, alkalines, acids

Conditions to avoid
Heating.

Incompatible materials
Metals, metal alloys
(generation of hydrogen)

Hazardous decomposition products
no information available

SECTION 11. Toxicological information

Information on toxicological effects

Likely route of exposure
Eye contact, Skin contact

Acute oral toxicity
Symptoms: Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.

Acute inhalation toxicity
Symptoms: mucosal irritations, Cough, Shortness of breath

Skin irritation
Mixture causes skin irritation.

Eye irritation
Mixture causes serious eye irritation.

Specific target organ systemic toxicity - single exposure
The substance or mixture is not classified as specific target organ toxicant, single exposure.

Specific target organ systemic toxicity - repeated exposure
The substance or mixture is not classified as specific target organ toxicant, repeated exposure.
Aspiration hazard
Regarding the available data the classification criteria are not fulfilled.

Carcinogenicity

IARC
No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA
No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

NTP
No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

ACGIH
No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

Further information
Quantitative data on the toxicity of this product are not available.
Other information
The following applies to nitrites/nitrates in general: methemoglobinemia after the uptake of large quantities.
Further data:
Other dangerous properties can not be excluded.
Handle in accordance with good industrial hygiene and safety practice.

Ingredients

nitric acid

Skin irritation
Rabbit
Result: Causes severe burns.
(IUCLID)

Eye irritation
Rabbit
Result: Causes burns.
(IUCLID)

Germ cell mutagenicity
Genotoxicity in vitro
Ames test
Salmonella typhimurium
Result: negative
Method: OECD Test Guideline 471

SECTION 12. Ecological information
Ecotoxicity
No information available.
Persistence and degradability
No information available.

Bioaccumulative potential
No information available.

Mobility in soil
No information available.

Additional ecological information
Discharge into the environment must be avoided.

Ingredients

nitric acid

Toxicity to fish
LC50 Gambusia affinis (Mosquito fish): 72 mg/l; 96 h (IUCLID)

Biodegradability
The methods for determining the biological degradability are not applicable to inorganic substances.

Substance does not meets the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.

Henry constant
2482 Pa·m³/mol
Method: (calculated)
(Lit.) Distribution preferentially in air.

SECTION 13. Disposal considerations
The information presented only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

SECTION 14. Transport information

Land transport (DOT)

UN number UN 3264
Proper shipping name CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (CONT. NITRIC ACID NOT MORE THAN 5%)

Class 8
Packing group III
Environmentally hazardous --

Air transport (IATA)
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UN number 3264
Proper shipping name CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (CONT. NITRIC ACID SOLUTION)
Class 8
Packing group III
Environmentally hazardous --
Special precautions for user no

Sea transport (IMDG)
UN number 3264
Proper shipping name CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (CONT. NITRIC ACID NOT MORE THAN 5%)
Class 8
Packing group III
Environmentally hazardous --
Special precautions for user yes
EmS F-A S-B

SECTION 15. Regulatory information
United States of America
Canada
WHMIS Classification
D1A Very Toxic Material Causing Immediate and Serious Toxic Effects
E Corrosive Material
Highly toxic by inhalation, Corrosive to metals, Corrosive by inhalation.
This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

Notification status
TSCA: All components of the product are listed in the TSCA-inventory.
DSL: This product contains one or several components listed in the Canadian NDSL.
KOREA: Not in compliance with the inventory

SECTION 16. Other information

Training advice
Provide adequate information, instruction and training for operators.
H290 May be corrosive to metals.
H315 Causes skin irritation.
H319 Causes serious eye irritation.

Key or legend to abbreviations and acronyms used in the safety data sheet
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Used abbreviations and acronyms can be looked up at www.wikipedia.org.

Revision Date 01/26/2015

The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to appropriate safety precautions. It does not represent a warranty of any product properties and we assume no liability for any loss or injury which may result from the use of this information. Users should conduct their own investigations to determine the suitability of the information.

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